### Bordeaux 2016 Abstract Submission

**Title**
Demands for Imported and Domestically Produced Red and White Wine in the United States

**I want to submit an abstract for:**
Conference Presentation

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**Keywords**
Red and White Wine Import Demand Rotterdam AIDS CBS NBR model, Three Different Demand methods

**Research Question**
How imported red and white wine affect the demand for domestically produced red and white wine? How import countries affect each other? What's the price and income effects?

**Methods**
Four models (AIDS, Rotterdam, CBS and NBR) that are nested on a general model will be tested to determine which model fits the data better in a two-stage model.

**Results**
At this stage, we are still modifying models and results are tentative.

**Abstract**
Objectives and Background
Wine, especially red and white wine, is the major group of imported alcoholic beverage to the United States. From 1989 to 2014, total wine imports have increased 485% in term of value and 295% in term of quantity. Among all wines, red wine imports have increased 670% in term of value and 346% in term of quantity. White wine imports have increased 427% in term of value and 135% in term of quantity. Italy, France, Australia, Argentina and Chile are the major red wine exporters to the United States. These countries accounted for more than 87% of total U.S demand for red wine import by value (USDA/FAS, 2014). Italy, France, New Zealand, Australia, and Germany are the major white wine exporters to the United States. These countries accounted for more than 89% of total U.S demand for white wine import by value (USDA/FAS, 2014). Few studies focused on demands for U.S domestically and imported red and white wine. Seale, Marchant, and...
Basso (2003) analyze the demand for import versus domestic production for the U.S red wine market. Carew, Florkowski and He (2005) analyze demand for imported and domestic table wine in British Columbia, Canada with the AIDS model. Lee, Kennedy, and Hibun (2008) analyze an import demand system of the South Korean wine market using the source-differentiated AIDS mode. But these studies either exclude the demands for domestically produced wine or apply one differential approach without testing whether the applied mode is the best one to fit the data. More importantly, no study focus on the red and white wine in the past studies. To fill this gap, this paper studies relationship among domestically produced and imported wine with the model that fits the data best.

Data and Method

The U.S import expenditure, quantity, and price data from 1989-2014 are collected from the United Sates Department of Agriculture, Foreign Agricultural Service (USDA/FAS, 2014). U.S. national population annual data are adopted from the United Sates Census Bureau to conduct analysis on a per capita basis. When estimating import demand for by source of production, an important question is to include or exclude domestically produced goods in the analysis. Most papers, method one, assume domestic production is separable from imports (Lee, Seale, and Jierwiriyapant 1990; Schmitz and Seale 2002; Seale et al. 2005; Nazku, Houston, and Fonsah 2010; and Tshikala and Fonsah 2012; Seale, Zhang, and Traboulsi 2013a). In this method, one estimates the import demand for a number of countries. If one is interested in the effects of imports on demand for the domestic good, this method is lacking.

Winters (1984) questions the assumption of separability between domestic and imported goods and provides evidence that the domestically produced good is not separable from imports. If so, one way, method two, is to include the domestically produced good along with imports in the demand system (Seale, Zhang, and Traboulsi 2013b). Method two can measure the effects of imports on the domestic good, but at the cost including a smaller number of imports. This is because the quantity of the domestically consumed good is often so much larger than the quantity of imports from any given country, and the domestic data literally swamps that of the import data. The third method, emphasized by this paper, accounts for domestic production in import demand analysis with the two-stage analysis. In the first stage, a total expenditure is allowed between the U.S. domestic consumption data and total imports of the good. It consists of two equations, demand for the domestically produced wine and demand for the imported wine as a whole. In the second stage, total import expenditure is allocated among the different country sources. For each stage, conditional expenditure and price elasticities are calculated. Those of the second stage are directly comparable to method one. By proper multiplication between the elasticities of stages one and two, conditional elasticities are calculated that are directly comparable to those of method two. With emphasis on the third method, this paper presents the results from the three methods for the same set of commodities.

The differential demand system will be used for the first and second stage. The choice of the functional form depends on the log-likelihood test. More specifically, Barten (1993) made a systematic comparison of four versions of differential demand systems: Rotterdam system (Theil, 1965), the Almost Ideal Demand system (AIDS) (Deaton and Muellbauer, 1980), the Central Bureau of Statistics (CBS) system (Keller and van Driel, 1985) and the National Bureau of Research (NBR) system (Neves, 1987). CBS and NBR models can be considered as income-response variants of Rotterdam and the AIDS, respectively (Lee, Brown, and Seale, 1994). All four models can be nested on a general model. The log-likelihood test will be applied to determine which model fits the data best. Results obtained from the best models will be presented, and comparisons among the three methods are drawn.